

SEMINOLE COUNTY GOVERNMENT AGENDA MEMORANDUM

SUBJECT: Radio station options for providing emergency communications and information to citizens.

DEPARTMENT: Community Information **DIVISION:** _____

AUTHORIZED BY: Patti Michel **CONTACT:** Matt Chesler EXT. 1170
Terri Connelly EXT. 1171

Agenda Date 2-8-2005 **Regular** ☐ **Consent** ☐ **Work Session** ☐ **Briefing** ☒
Public Hearing – 1:30 ☐ **Public Hearing – 7:00** ☐

MOTION/RECOMMENDATION:

Staff is requesting direction on pursuing radio station options for providing emergency communications and information to Seminole County residents.

BACKGROUND:

During and after the hurricanes of 2004 Seminole County used SGTV, media briefings, news releases, the internet and secured a specific time each hour on a commercial radio station during the emergency to provide vital information to citizens. Radio proved to be the most effective and reliable form of emergency communication, due to the widespread use and affordability of battery-powered radios that residents could use in a county-wide emergency situation even when the power was out.

In an effort to provide more comprehensive emergency communications and information to Seminole County residents, staff was directed to research the availability and costs associated with procurement of a radio station for the County to use in this capacity.

The attached consultant's report, from Professional Communications Consultants, Inc., was commissioned to determine if any radio stations or frequencies were available for a station that could provide coverage to Seminole County. AM, FM, low-power FM and "traveler's information" AM stations and frequencies were researched and considered.

The report identified the limitations of low-power radio services. Deltona recently activated a single transmitter "traveler's information" AM station. Deltona Fire Chief, Frank Ennist, confirmed that the reception is better in vehicles but is limited inside buildings. Pinellas County uses a series of these low-power radio transmitters to cover their County primarily for evacuation information. Pinellas County reports a similar problem with poor reception in buildings.

Reviewed by:
Co Atty: _____
DFS: _____
Other: _____
DCM: SG
CM: TC

File No. BC1D01

The consultant report makes a recommendation that FM is preferable to AM for an emergency application due to identical daytime and nighttime coverage areas, and also because of comparative ease of maintenance.

The report indicates there are no current unused licensable AM or FM channels in Seminole County. In addition, the FCC has not announced any "filing windows" for new license applications. Even if a "filing window" were announced by the FCC the consultant studies found no opportunities for new licenses available in Seminole County (See attached email from consultant David Dickman). Staff also contacted a media broker who indicated there were no stations for sale at this time that would meet the County's needs.

The report states the only other option, beyond the limited purpose "traveler's information" station, is for the County to purchase or lease time on an existing radio broadcast station during emergency situations.

Low Power Television (LPTV)

In a separate report, also attached, the consultant explored the feasibility and availability of LPTV. The report points out the disadvantages of LPTV. Also, there are no opportunities to apply for a new LPTV station, nor are there any existing stations with transmitters in Seminole County. Therefore, the County's only option is to purchase an existing LPTV station near the County. The consultant cautions that a detailed study would be necessary to determine whether the station could be moved and what the new coverage area would be.

Since battery powered televisions are not common, even if a LPTV station could be procured, it would not accomplish the desired goal.

Conclusion

Based on the consultant report, constructing or purchasing a full power AM or FM radio station does not appear to be a viable option at this time.

Staff further researched the feasibility of the low power AM "traveler's information" station option. In order to cover all of Seminole County, a minimum of nine (9) strategically placed transmitters throughout the County would be required. The total cost could exceed \$300,000 plus ongoing operating and maintenance costs. This type of station may not fully meet the County's needs due to limited reception inside buildings.

Staff recommends exploring agreements with commercial and non-commercial AM and FM radio stations for emergency communications during disasters and disseminating vital information afterwards.

Staff has contacted two non-commercial stations, WUCF-FM (University of Central Florida) and WMFE-FM (Public Broadcasting). Both stations expressed an interest in community outreach partnerships and a willingness to work with Seminole County in this regard. These stations may offer the best opportunity to partner with the County for our enhanced emergency communications efforts due to their non-commercial status and stated commitment to community service.



David Dickmann
<Dave@dlr.com>

01/13/2005 12:11 PM

To "MChesler@seminolecountyfl.gov"
<MChesler@seminolecountyfl.gov>

cc

bcc

Subject RE: Broadcast station project proposal

History:  This message has been forwarded.

Matt:

Non-commercial, educational FM: No opportunities to file for new stations have occurred since the late 1990's. The FCC has been dealing with a large backlog of competing applications, and is making progress through those. I expect within the next year or two a filing window will be opened (simply because it has been frozen for so long). Please note that our studies showed that no opportunities are available in Seminole County (this is pretty much the case with all urbanized areas).

Commercial FM: If a channel can be found, you can file for it to be allotted to the community at any time. Once the FCC allots the channel, the FCC designates a filing window for that channel and anyone can file an application; then you compete with the other applicants to see who gets to license the allotment. Please note that our studies indicate that there are no channels available for allotment to Seminole County.

AM: The FCC is still processing the applications that were filed in the last window. Responses from applicants in the second step of a three-step processing procedure are due this Friday. We expect the initiation of the third step by the FCC within a month or two. The next filing window is not expected for at least a year or two, maybe more. Please note, our studies indicate that there is little likelihood of Seminole County obtaining a new AM station with adequate coverage.

TO RE-EMPHASIZE:

WE SEE NO OPPORTUNITIES FOR SEMINOLE COUNTY TO FILE FOR A NEW FM STATION BECAUSE THERE IS NO SPECTRUM AVAILABLE. IT DOESN'T MATTER WHEN A FILING WINDOW IS OPENED. TO OPEN UP FM SPECTRUM, THE COUNTY WOULD HAVE TO GET INTO A MULTI-STATION CHANNEL CHANGE SITUATION WHICH WOULD PROVE QUITE COSTLY AND MAY NOT RESULT IN ANY OPPORTUNITIES.

WE DO NOT THINK A NEW AM STATION CAN BE ALLOTTED TO SEMINOLE COUNTY THAT WOULD PROVIDE THE COVERAGE YOU DESIRE. IT DOESN'T MATTER WHEN A NEW FILING WINDOW MAY BE OPENED.

If you buy an existing station and want to modify it, there may be opportunities to change it's coverage area without waiting for a filing window. Each station's situation is unique and would have to be studied individually.

Dave

-----Original Message-----

From: MChesler@seminolecountyfl.gov
[mailto:MChesler@seminolecountyfl.gov]
Sent: Thursday, January 13, 2005 11:42 AM
To: David Dickmann

PCCI

Professional Communications Consultants, Inc.

David E. Dickmann
Direct Dial No.
(941) 329-6002
e-mail dave@dlr.com

January 7, 2005

Via E-mail and U.S. Mail

Ms. Terri Connelly
Seminole County Government TV
1101 East First Street
Sanford, Florida 32771

Re: Broadcast Radio Facilities for Seminole County

Dear Ms. Connelly:

We have completed a survey of the radio broadcast spectrum to determine what channels, if any, might be available for the broadcast of public safety and local government information to the citizens of Seminole County. The study involved surveys of the AM and FM full-service broadcast radio services, the low-power FM radio service, and the AM traveler's information radio service. The results are summarized below by type of service.

An attempt was made to provide some pricing guidelines for the purchase of an existing station, however information is sketchy at best and pricing information should be considered as a "ball-park" estimate. If you want up-to-date station valuations, you will likely need to employ the services of a media broker.

AM Radio Service

Applications for new AM radio stations must be filed during an open, one week long "filing window" announced by the FCC. There is no announced filing window at this time (the most recent one was in January 2004), and it is not known when another such window may be opened. In any event, it is unlikely that any new AM frequency could be allotted in Seminole County due to the required protection of existing AM stations during nighttime operations. In the past, the FCC allowed daytime-only station applications, but that practice was discontinued a number of years ago.

The best option for obtaining an AM station license would be for the County to purchase an existing AM station. Table A, below, contains a list of AM stations licensed

to communities in Seminole County. I have included most recent sale price for station WSDO, the only station for which a price is listed in the *Broadcasting and Cable Yearbook*.

Figure 1 contains maps showing the daytime 2 mV/m (suburban) coverage and 0.5 mV/m (rural) coverage contours and the nighttime interference-free coverage contours for the stations listed in Table A. As can be seen on the map, the nighttime coverage is much less than the daytime coverage. This is typical for most local market AM stations.

It is permissible to increase radiation and/or relocate an AM station to improve coverage. Given the County's proximity to the Orlando market and the nearby concentration of stations, it is likely that little can be done to improve the coverage of the local station's listed. This is especially true for nighttime coverage, where nighttime skywave protection to stations throughout the United States and the Caribbean is required.

Due to the County's proximity to the Orlando metropolitan area, there are numerous other AM stations which provide service to Seminole County. The majority of these other stations have coverage directed primarily at the Orlando metropolitan area.

If the county does decide to pursue the purchase of an AM station, I highly recommend that you employ the services of a competent broadcast engineer to do a station inspection. Sometimes the cost of refurbishing an AM station's transmission facilities can be as much as the purchase price of the station itself, especially if the station employs a directional antenna. The estimated cost for a complete rebuild of a small (1 kilowatt to 5 kilowatts) AM station transmitter site (such as those listed in Table A) is between \$100,000 and \$200,000, with the higher figure representative of a facility with a two-tower directional antenna. This estimate does not include studio equipment or land.

Table A – AM Radio Stations				
Call Sign	Frequency	Licensee	Community	Sale Price (date)*
WORL	660 kHz	JCE Licenses, LLC	Altamonte Springs	---
WONQ	1030 kHz	Florida Broadcasters	Oviedo	---
WSDO	1400 kHz	JV Communications Company	Sanford	\$300,000 (June 1992)

*Based on *Broadcasting and Cable Yearbook* 2005.

FM Radio Service

Unlike the AM radio spectrum, the FM radio spectrum is divided into the non-commercial portion of the band (88.1 MHz to 91.9 MHz, lower 20 channels) and the commercial portion of the band (92.1 MHz to 107.9 MHz, upper 80 channels). Applications for a new FM radio station in the non-commercial portion of the band must

be filed during a one-week long filing window announced by the FCC. No specific filing windows have been announced at this time.

To apply for a new FM station in the commercial portion of the band, the County would have to petition the FCC to allot a new FM channel and designate it for non-commercial, educational use. The FCC would then designate a filing window during which interested parties could file applications for the channel. If Seminole County is the only applicant, the license would be awarded to the County. If there are other applicants, in addition to the County, the winning applicant would be selected based on a set of comparative criteria used by the FCC to select among multiple applicants.

Ownership of an FM station is preferable to that of an AM station with similar coverage, due to ease of maintenance and the fact that an FM station has identical coverage 24 hours per day. A class A FM station is the smallest class of station authorized by the FCC and provides coverage out to a distance of about 17 miles from the transmitter site. With a properly placed transmitter site, a class A FM station would provide predicted coverage to all of Seminole County. For your information, the estimated cost of transmitting equipment for a new class A FM station (excluding tower and studio equipment) is about \$100,000. A class C3 FM station is the next smallest class and provides coverage out to about 25 miles from the transmitter site.

A search of the entire band, non-commercial and commercial portions, reveals no licensable channels for new FM stations in Seminole County. Existing stations preclude all channels. The county's proximity to the Orlando market greatly affects the availability of channels.

In case the County wishes to pursue purchase of an existing FM station, I have included, as Table B, a list of all FM class A and class C3 stations with transmitter locations near Seminole County; there are no FM stations with transmitter sites located in Seminole County. The most recent station purchase prices are not listed in the *Broadcast and Cable Yearbook*. Figure 2 contains a map showing the predicted coverage contours for these FM stations.

Table B – FM Stations				
Call Sign	Frequency	Licensee	Community	Sale Price (date)*
WUCF-FM	89.9 MHz	University of Central Florida	Orlando	---
WPRK	91.5 MHz	Rollins College	Winter Park	---
WPYO	95.3 MHz	CXR Holdings, Inc.	Maitland	---
WLOQ	103.1 MHz	Gross Communications Corporation	Winter Park	---

*Prices not listed in *Broadcasting and Cable Yearbook* 2000-2005.

Due to the County's proximity to the Orlando metropolitan area, there are numerous other FM stations providing service to Seminole County. The majority of these other stations are high-powered stations (Classes C, C1 or C2) and their coverage areas encompass significant portions of central and east-central Florida.

The transmitting facilities of an FM station are much simpler to construct and maintain than those of an AM station. However, due to the better sound quality and nighttime coverage of FM stations, the purchase price of an existing FM station is usually considerably higher than for an existing AM station. Existing FM stations with coverage in the Orlando market are likely to cost upwards of \$1-2 million for a small station to several tens of millions for a large station.

Low Power FM Radio Service

In 1999, the FCC created the Low Power FM Service (LPFM). The service was created to allow for local, non-commercial licensees to own and operate broadcast facilities. (As you can tell from my comments regarding the AM and FM broadcast services, there is often little opportunity for anyone to obtain a new broadcast license in many areas of the country). The LPFM service designates two types of FM station facilities: an LP100 facility (100 Watts) and an LP10 facility (10 Watts). An LP100 facility will provide coverage out to a distance of about 3.5 miles; and LP10 facility will provide coverage out to a distance of about 2 miles. An LPFM station can operate on any one of the 100 FM channels (88.1 MHz to 107.9 MHz), providing that the station protects existing full-service FM stations and allotments, other authorized LPFM stations and television channel 6 stations.

Under the LPFM Rules, ultimately an organization may have up to 10 LPFM stations. Initially, however, an organization may apply for only one LPFM license. To apply for a new LPFM station, the County must wait until a LPFM filing window is opened by the FCC. The original LPFM filing window for Florida has closed, and no new LPFM filing window is scheduled at this time. Estimated cost for new transmitter site equipment (excluding tower and any studio equipment) is \$10,000.

Due to the fact that television channel 6 broadcast station WKMG, Orlando operates nearby, use of the lower 20 FM channels by LPFM stations are not permitted in Seminole County. The FCC's website has a program that can be used to search for available LPFM frequencies based on a proposed transmitter site. A search of the 80 commercial FM channels using the FCC's LPFM program reveals no available LPFM channels in Seminole County.

You should note that LPFM stations are authorized as secondary services to full-service FM stations. Thus, an LPFM station is not protected from interference from full-service FM stations.

AM Traveler's Information Stations

Under its Private Land Mobile Radio rules, the FCC regulates use of the AM radio frequencies for the purpose of traveler's information radio stations. These stations are intended for distribution of public safety information (such as traffic routing and road closure information) to vehicular traffic. There are two types of typical transmitting facilities: a single mast antenna (often a telescoping mast mounted on a trailer) or "leaky" cable. In both cases coverage is usually limited to no more than approximately 2 miles of roadway at best, and may be more severely limited than that depending on local conditions. Audio quality may be poor. Such a station may be licensed as a temporary fixed station, permitting it to be moved to various road locations as the need arises.

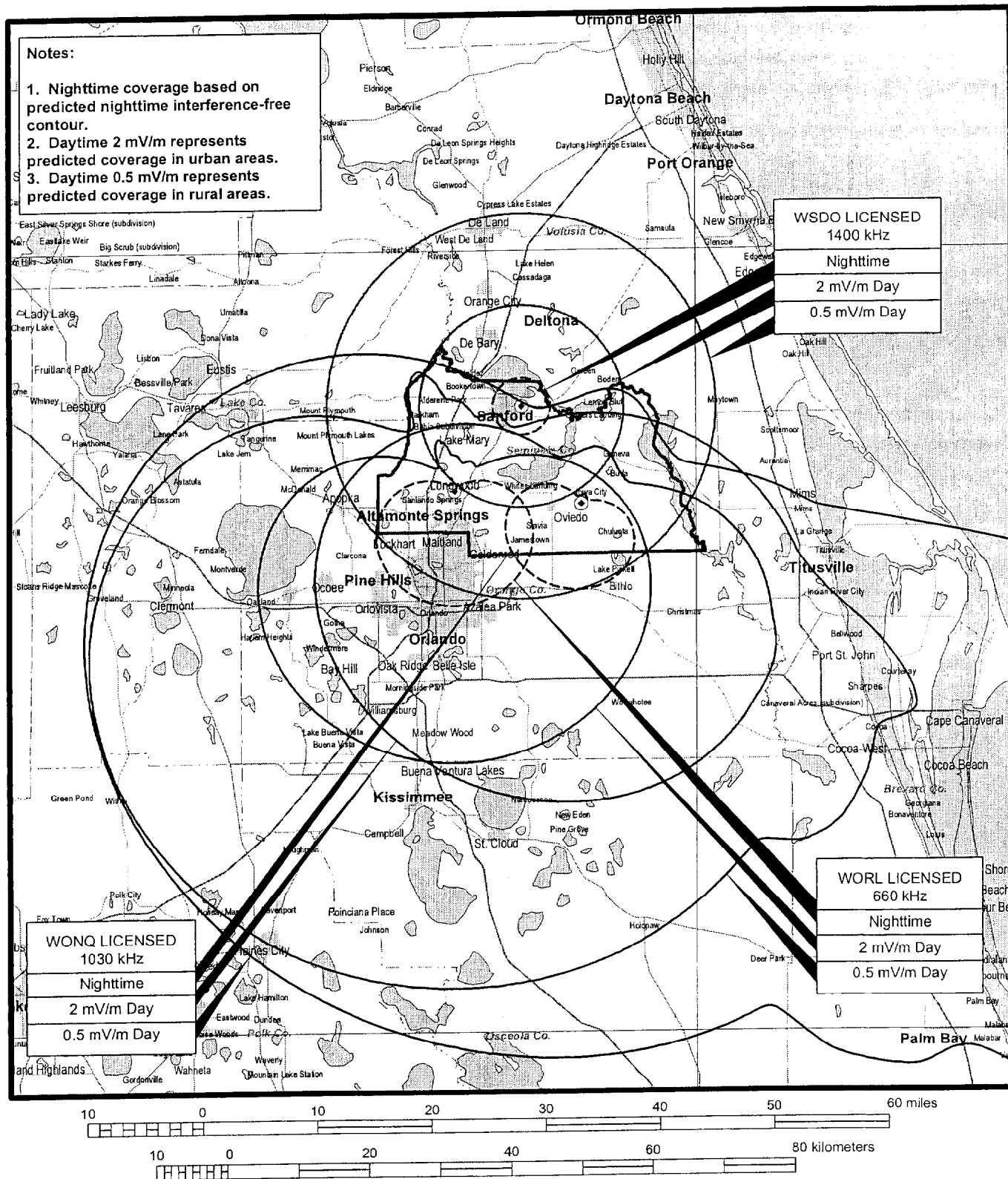
In summary, it appears that, other than for a traveler's information station for the limited purposes listed above, the only option for Seminole County is to purchase (or lease time on) an existing radio broadcast station. If the County wishes to pursue this option, I recommend that it determine how much it is willing to pay for such a station and contact a media broker to determine which if any local stations might be purchased for the price the County is willing to pay.

Sincerely,



David E. Dickmann
Vice-President

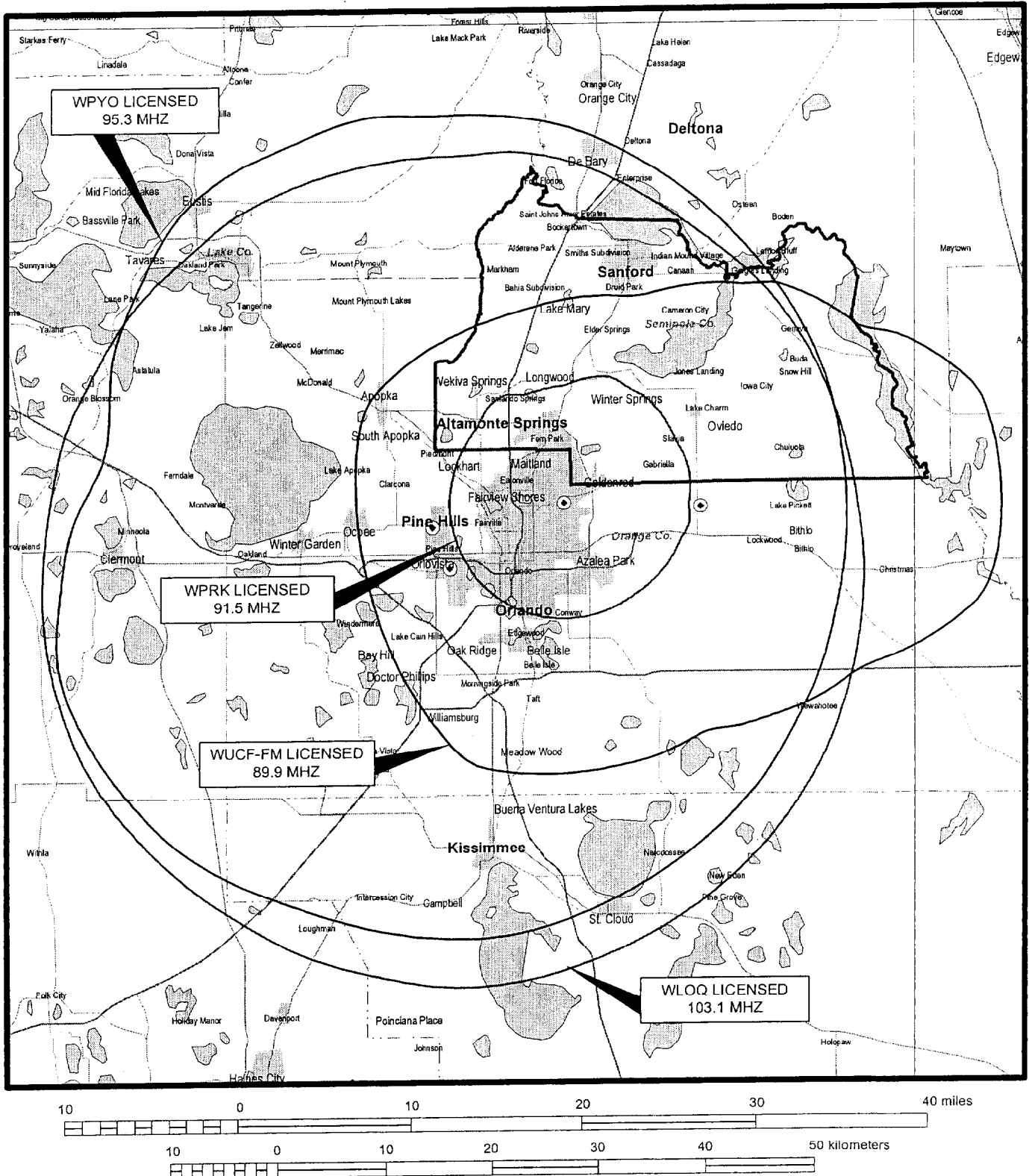
Figure 1



LOCAL AM STATION COVERAGE **PREDICTED CONTOURS** **SEMINOLE COUNTY, FLORIDA**

Professional Communications Consultants, Inc., Sarasota, Florida

Figure 2

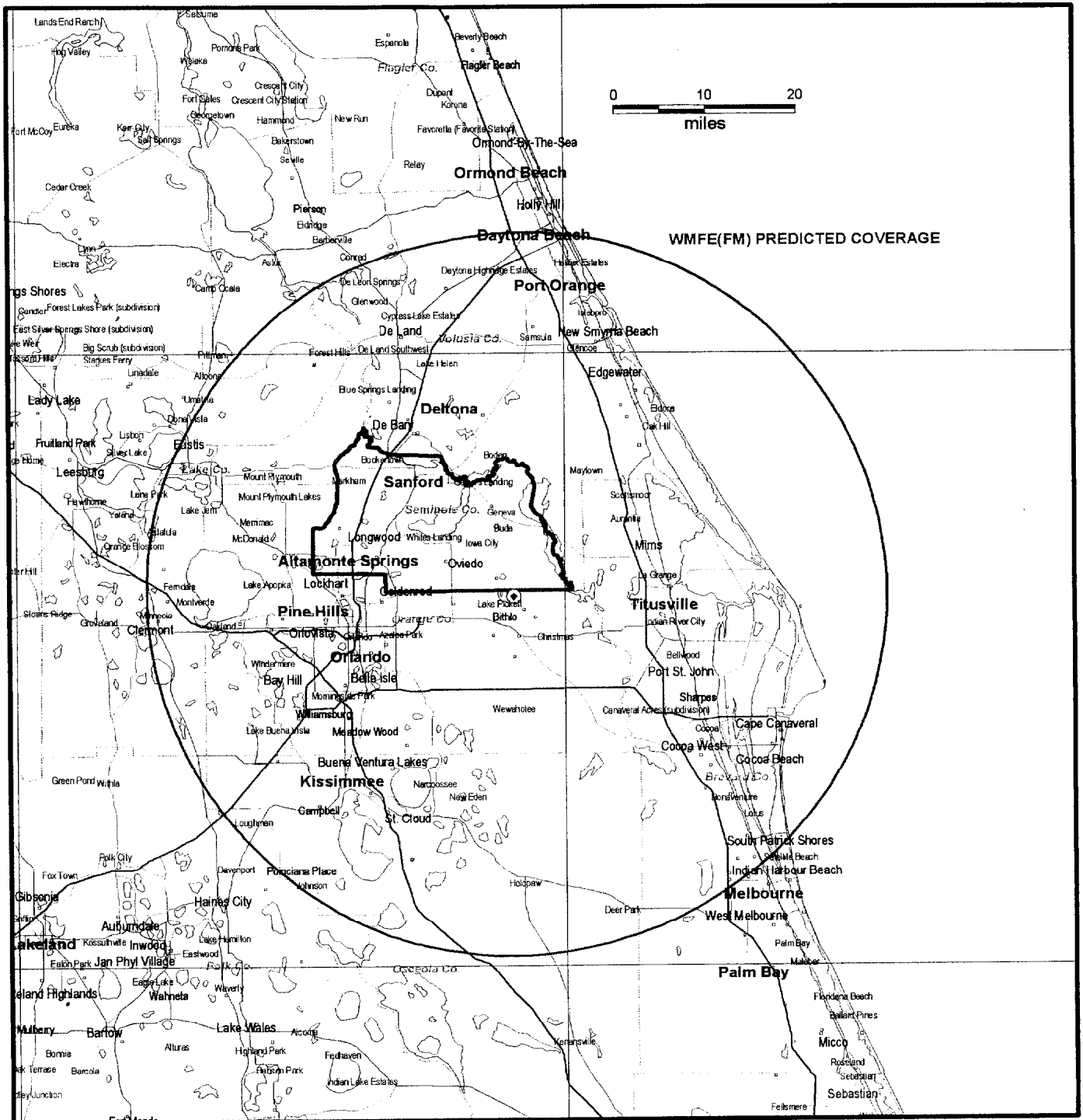


LOCAL FM STATION COVERAGE

PREDICTED 1 MV/M CONTOURS

SEMINOLE COUNTY, FLORIDA

Professional Communications Consultants, Inc., Sarasota, Florida



PREDICTED 1 MV/M COVERAGE

WMFE(FM) 90.7 MHZ

100 KW 730 FEET

ORLANDO, FLORIDA

Professional Communications Consultants, Inc., Sarasota, Florida

PCCI

Professional Communications Consultants, Inc.

David E. Dickmann
Direct Dial No.
(941) 329-6002
e-mail dave@dlr.com

January 10, 2005

Via E-mail and U.S. Mail

Ms. Terri Connelly
Seminole County Government TV
1101 East First Street
Sanford, Florida 32771

Re: LPTV Facilities for Seminole County

Dear Ms. Connelly:

We have completed a survey of the television broadcast spectrum to identify low power television (LPTV) facilities that might be available for the broadcast of public safety and local government information to the citizens of Seminole County. Since the entire broadcast television industry is currently in transition from analog to digital television service (period continuing to at least the end of 2006 and probably longer), we have also provided background on that transition as it impacts Seminole County's opportunities for licensing an LPTV station.

Low Power Television Service

For a large number of years it has been nearly impossible to find a frequency for a new full-service television station in urban areas of the United States. Because of the large coverage areas of television stations (50-60 miles from the transmitter site) and even larger interference areas (precluding use of the co-channel and adjacent-channel frequencies by any other nearby station) there simply was not spectrum available for new full-service stations. The Low Power Television (LPTV) Service provided some relief in that it limits operation to significantly reduced power levels as compared with full-service stations (thus reducing interference to other stations) and in that it permits an LPTV facility to operate at locations where it is predicted to receive interference from full-service stations. Thus, new LPTV stations could be "dropped in" to the predicted interference areas of full-service stations at locations where full-service stations were prohibited from operating.

Often times, LPTV stations are operated as translators of full-service television stations, re-broadcasting the programming of the full-service station in an area where the full-service station has a poor signal. LPTV stations can also operate using original programming. The estimated "ball-park" cost for construction of a LPTV facility is \$120,000. This cost does not include tower, land, studio equipment, cameras, etc. The cost to purchase an existing station is likely to be considerably above this figure since Seminole County is in the Orlando market area.

There are two major disadvantages of LPTV compared to full-service TV: (1) much smaller coverage areas and (2) classification as a secondary service. As a secondary service, an LPTV station does not have a protected service area. It must change frequencies and/or reduce coverage (or go off the air) if it causes interference to a full-service TV station. Many LPTV stations have had to scramble to find new frequencies and new transmitter sites as a result of the FCC's allotment of new digital full-service television stations. When the new digital station went on the air, all LPTV stations that caused interference had to either modify their facilities or go off the air if no acceptable frequency could be found. More of this uncertainty is expected with the spectrum repacking presently going on in the continuing transition to digital television (where stations in channels 52 through 69 are being moved to frequencies within channels 2 through 51).

To provide some relief to LPTV licensees, the FCC created the Class A television service. During a special 90-day filing period in 1999, LPTV licensees that met certain criteria could apply to convert their licenses from LPTV status to Class A status. The primary difference is that a Class A television facility is considered a primary station along with full-service broadcast television stations. Thus, although the limits on its operating power are the same as those for an LPTV station (and thus its coverage area is similar), a Class A station has a coverage area that is protected from interference by both LPTV facilities and full-service television facilities. Because of this regulatory protection, Class A stations will not be forced to modify facilities or go off the air in the event that a full-service television station wants to use the Class A station's frequency.

LPTV During the DTV Transition Period

The FCC is not accepting any applications for new full-service television, LPTV or Class A stations at this point. The present effort at the FCC is the ongoing conversion from analog to digital television. Therefore, the County does not presently have the option of applying for a new LPTV station. We believe the FCC plans, at some future date, to again accept LPTV applications, but that these will be

for digital LPTV facilities. We don't expect any more opportunities to apply for new analog LPTV facilities. Therefore, Seminole County's options to acquire an LPTV facility are presently limited to the purchase of an existing station.

LPTV Station Options for Seminole County

In the following tables we have listed the LPTV and Class A television facilities licensed at locations near Seminole County. There are no stations with a transmitter site in Seminole County.

The Class A stations are listed in the Table 1 below, and their predicted coverage areas shown in Figure 1. Under present regulations, Class A stations are not permitted to increase their coverage areas beyond that presently licensed, therefore the County cannot move any of these stations to improve their coverage in Seminole County. We expect that this temporary measure will be lifted at some point in the future once the process of repacking the spectrum for digital television is completed.

Table 1 – Class A TV Stations			
Call Sign	Channel	Licensee	Community
WFOL-LP	4	Native Country Broadcasting Corporation	Orlando
WRCF-LP	29	Charles S. Namey	Orlando
WPXG-LP	31	Tiger Eye Broadcasting Corporation	Orlando
WZXZ-CA	36	The Box Worldwide LLC	Orlando, ETC.

The LPTV stations are listed in Table 2 below, and their predicted coverage areas are shown in Figure 2. Since these stations may be subject to interference from one or more full-service stations, the actual coverage areas may be smaller than those shown, but actual coverage will likely not be much more than that shown. Presently the FCC permits modification of an LPTV station as long as the move of the LPTV transmitter results in a predicted coverage area that overlaps the licensed coverage area. From a regulatory standpoint, it is theoretically possible to relocate any of these LPTV stations providing the above condition is met. If Seminole County desires to pursue purchase of one or more of these stations, a detailed study should be undertaken to determine whether the station can be moved and if so what the new coverage would be.

Table 2 – LPTV Stations			
Call Sign	Channel	Licensee	Community
WXXU-LP	12	Rama Communications	Altamonte Springs
WSWF-LP	13	Specialty Broadcasting Corporation	Union Park
WVCI-LP	16	Entravision Holdings, LLC	Orlando
W21AU	21	Central Broadcast Company	Orlando
W47AL	47	Concilio Mission Cristiana Fuente	Orlando

Should Seminole County choose to purchase an LPTV station, it should be aware that it could lose its LPTV station license, even after construction, as a result of changes in full-service TV channel allotments. A significant number of changes in full-service TV channel allotments are anticipated throughout the remainder of the DTV transition period. Although not protected from changes in full-service television station allotments, LPTV stations are protected from changes in other LPTV station allotments.

All of the existing Class A or LPTV facilities listed in the tables or shown in the figures are analog facilities. It is expected that they will need to be converted to digital facilities in the future. The Class A facilities are expected to be permitted digital station coverage that closely matches their existing analog coverage (although they may end up on an alternate channel), the LPTV stations have no guarantees with respect to digital coverage. Once the DTV transition period is over, both the LPTV and Class A facilities may have the opportunity to modify and/or improve coverage as digital facilities.

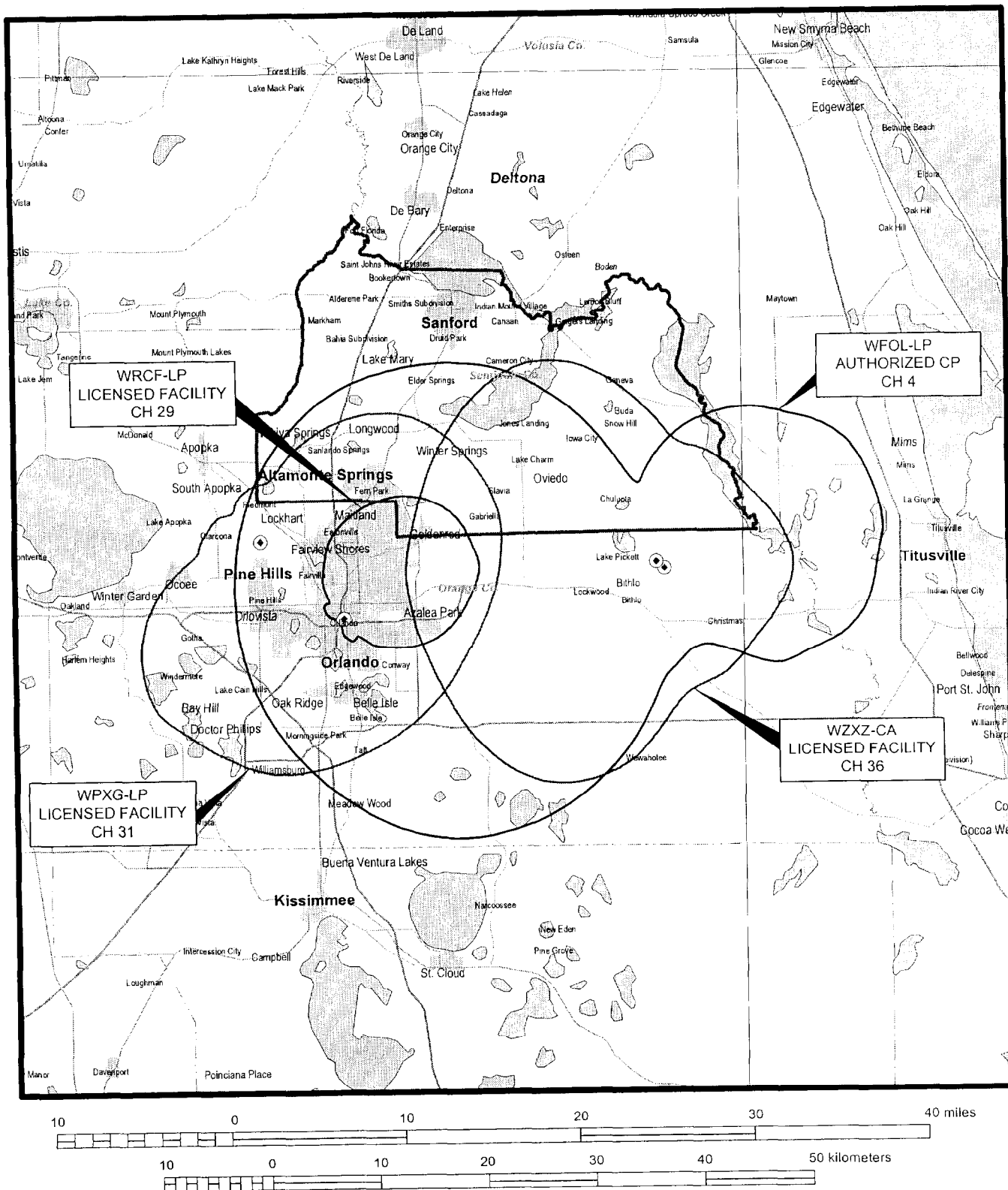
In summary, it appears that the only option for Seminole County to acquire an LPTV station is to purchase an existing LPTV or Class A broadcast station. If the County wishes to pursue this option, I recommend that it determine how much it is willing to pay for such a station and contact a media broker to determine which if any local stations might be purchased for the price the County is willing to pay.

Sincerely,



David E. Dickmann
Vice-President

Figure 1

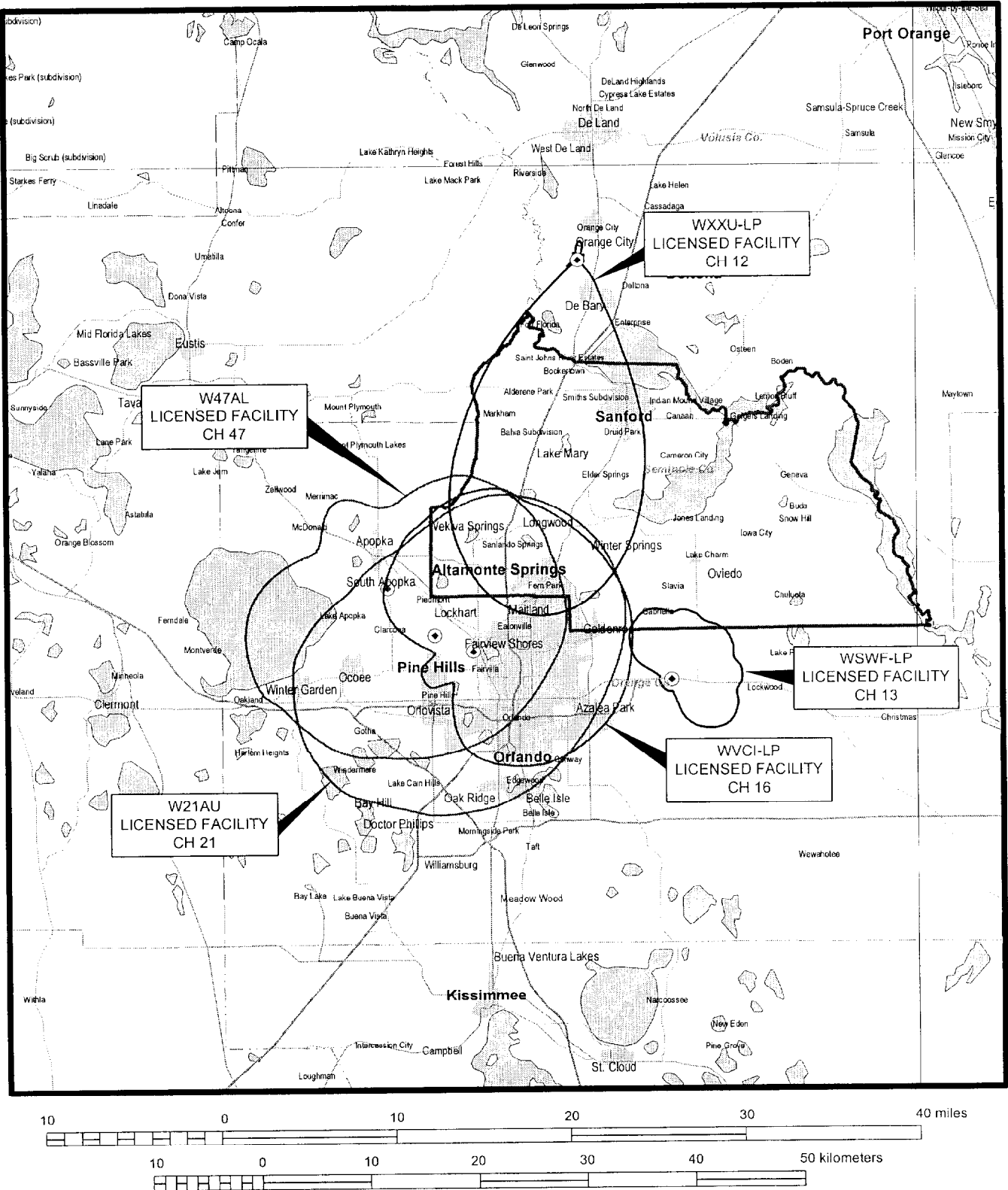


LOCAL CLASS A STATION COVERAGE

PREDICTED SERVICE CONTOURS
SEMINOLE COUNTY, FLORIDA

Professional Communications Consultants, Inc., Sarasota, Florida

Figure 2



LOCAL LPTV STATION COVERAGE
PREDICTED SERVICE CONTOURS
SEMINOLE COUNTY, FLORIDA

Professional Communications Consultants, Inc., Sarasota, Florida